

## Patent Claims

1. Nucleic acid sequences coding for proteolytic enzymes in the form of specific proteases
  - 5 characterized by the fact that  
the nucleic acid sequences are derived from the coldness-adapted *fragilariopsis cylindrus* marine diatom and code for a calpain-7-protease according to SEQ ID No.1 or for a zinc metalloprotease according to SEQ ID No. 2 or for functional variants of both proteases or that they are formed as
    - 10 fragments with at least 8 nucleotides thereof.
2. The nucleic acid sequences in accordance with claim 1,  
characterized by the fact that  
the nucleic acid sequences are formed as DNA or RNA, preferably as
  - 15 double-stranded DNA.
3. The nucleic acids in accordance with claim 1 or 2,  
characterized by the fact that  
the nucleic acid sequences are contained in vectors, preferably in
  - 20 expression vectors.
4. The use of nucleic acid sequences in accordance with claim 3 for the expression or hyper-expression of the calpain-7-protease and/o zinc metalloprotease enzymes in host organisms.
  - 25
5. Polypeptides corresponding to the nucleic acid sequences in accordance with claim 1 or 2 which consist of amino acid sequences coded with the nucleic acid sequences according to SEQ ID No. 1 and SEQ ID No. 2, as functional variants thereof or a fragments thereof with at least 6 amino acids.
  - 30
6. The use of the calpain-7-protease and zinc metalloprotease enzymes

in accordance with claim 1 for therapeutic purposes.

7. The use of the calpain-7-protease and zinc metalloprotease enzymes  
in accordance with claim 1 for purification purposes of proteinaceous

5 contaminations.

8. The use of polypeptides in accordance with claim 5 for therapeutic  
purposes.

10 9. The use of polypeptides in accordance with claim 5 for purification  
purposes of proteinaceous contaminations.

15

20

25

30